

## Stages and Colorado Special Education

### OVERVIEW

Stages includes two major software components: (a) informal assessment software and (b) curriculum software. Stages informal assessment software is instructional in nature, providing activities with constructive feedback and opportunities for the learner to explore and choose. Stages curriculum software is a collection of interactive daily instructional programs appropriate for learners at each Stage.

Stages software enhances Colorado's special education assessment because:

- 1. Stages aligns with the Colorado Model Content Standards in Mathematics, Reading and Writing.**
- 2. Stages generates evidence of learner performance for CSAP-A by documenting activities.**
- 3. Stages provides learners with the opportunity for increased independence.**
- 4. Stages assists the learner's IEP team with selecting assistive technology and assessment tools.**

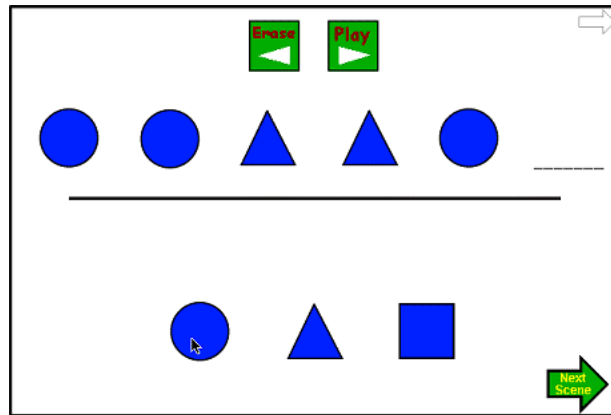
#### **1. Stages aligns with the Colorado Model Content Standards in Mathematics, Reading and Writing.**

Stages ensures meaningful and effective access to general curriculum areas for learners who require modifications in order to participate in statewide regular assessment. Stages activities help the learner meet general and/or expanded benchmarks. The learner's IEP team can also use Stages to help determine if alternate assessment is appropriate by providing informal benchmarks of learner progress in Mathematics, Reading, and Writing general curriculum areas. Please refer to the section of this document entitled "How Stages Correlates with Colorado Model Content Standards" for detailed matching and suggestions for using the activities to meet benchmarks.

#### **2. Stages generates evidence of learner performance for CSAP-A by documenting activities.**

During Stages software activities, the instructor can print directly from any screen to capture a learner-generated product as a benchmark. At the end of each activity, a report with instructional data about the time spent, choices made, response accuracy or work product, input method, prompt type, and time/date stamp are displayed with the learner's name. The instructor may wish to then print that screen, save the screenshot, or save the information as a text-format electronic file as examples of student work for evidence collection.

Observation guidelines and forms in the Stages kits help the instructional team make the most out of an activity session. The data-gathering features of the software enable the observer to focus on noting the learner's behavior and thinking-out-loud responses. Two adults from the instructional team can work together: one adult can encourage the learner and the other can note valuable data about behaviors without being noticed by the learner. Alternatively if a video or still camera is available, it may be directed at the learner and the computer monitor to discreetly record interactions and other behaviors while one adult coaches. During the sessions, the learner will be less conscious of her performance being recorded, making her responses more candid. Over time, the collected data will provide evidence that the instructional team needs to build a complete picture of the learner's skill achievement.



Example screen shot from Stage Four: Create Patterns

**3. Stages provides learners with the opportunity for increased independence.**

The feedback in Stages activities is encouraging and rewarding, providing a relaxed setting for exploring topics and demonstrating skills with minimal supervision. Many Stages activities include accessible choice-making opportunities. Functional skills activities include real-life community settings.

**4. Stages assists the learner's IEP team with selecting assistive technology and assessment tools..**

An objective of Stages software is to provide several options for input methods and other settings so that the learner's instructor, parents, and others in the IEP team can determine his ideal learning and communication environment. Different devices, auditory feedback, speeds and prompts are among the variables.

## SUMMARY

Stages augments the Colorado assessment cycle for special education. The Stages software is a comprehensive benchmark tool to assist the instructional team in collecting valuable information on learner skill achievement, determine assessment strategy, and discover the learner's abilities and thinking approach.

## How Stages Correlates with Colorado Model Content Standards<sup>1</sup>

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### Reading and Writing Grades K-4 Suggested Grade Level Expectations

**STANDARD 1:** Students read and understand a variety of materials.

- (K) *a sense of story* that shall include, but not necessarily limited to, students being able to:
- tell a simple story with a beginning, middle, and end (also in Standard 6);
  - retell a known story in sequence.

***Related Stages Assessment Activities:***

*Stage Seven: Making Stories*

- *Making Stories* gives the learner a chance to produce a written response after listening to a story. The learner's instructor can read a story, or import text. The learner can then use the text-to-speech option to hear the text spoken aloud.

- (K) *concepts about print* that shall include, but not necessarily limited to, students being able to:

- understand directionality of print;
- focus on word after word in sequence (voice-print match);
- realize that print carries meaning.

***Related Stages Assessment Activities:***

*Stage Six: Stories: Cody, Mitchell, Meg, Adam, Ryan*

- These activities are short passages about real people performing activities of daily living. The learner can follow text on the screen as it is spoken (Multisensory) or read silently (Visual).

- (K) *phonological and phonemic awareness* that shall include, but not limited to, students being able to:

- recognize patterns of sound in oral language (i.e., rhyming words);
- follow written text when the text is read aloud;

***Related Stages Assessment Activities:***

*Stage Five: Reading: Sounds*

- Stage Five *Sounds* highlights spelling patterns to emphasize the rhyming final sounds of words. The activity gives the learner short rhyming sentence pairs with simple animations. The screen displays text while audio plays. The learner then has a chance to identify the rhyming word pairs from a word wall.

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<sup>1</sup> Information from Colorado Model Content Standards, Suggested Grade Level Expectations for Mathematics, Reading and Writing. February 9, 2000.

Sources: [http://www.cde.state.co.us/download/pdf/stan\\_mathematics\\_expect.pdf](http://www.cde.state.co.us/download/pdf/stan_mathematics_expect.pdf)

[http://www.cde.state.co.us/download/pdf/stan\\_readwrite\\_expect.pdf](http://www.cde.state.co.us/download/pdf/stan_readwrite_expect.pdf) (Accessed June 28, 2002).

- (K) *some letter and word recognition* that shall include, but not limited to, students being able to:
- recognize the difference between lower and upper case letters.

**Related Stages Assessment Activities:**

Stage Four: *Reading Readiness: Letter ID*

Stage Five: *Reading: Meaning*

- Stage Four *Letter ID* presents the learner with letters using simple animations. The learner identifies upper and lower case letters when presented with prompts.
- Stage Five *Meaning* presents the learner with Dolch words. The learner selects the picture in a scene that illustrates the meaning of the word.

- (1) *integration of the cueing systems* -- graphophonics, syntax, and semantics -- that shall include, but not necessarily limited to, students being able to do the following:
- recognize letters and know sound-symbol relationships (graphophonics);
  - use background knowledge and context to construct meaning (semantics).
- (2) *understanding of texts* that shall include, but not necessarily limited to, students being able to:
- gain meaning from a variety of print, such as lists, letters, rhymes, poems, stories, and expository text

**Related Stages Assessment Activities:**

Stage Seven: *Making Words: High Frequency Words, Word Copy*

- The *High Frequency Words* activity presents a short passage missing words from the following list: *the, of, and, a, to, in, is, you, that, and it*. Using *Word Copy*, the instructor can create custom lists that read words for the learner to enter, such as abbreviations.

**STANDARD 2:** Students write and speak for a variety of purposes and audiences.

- (K) create a message by drawing, telling, and/or emergent writing.
- (1, 2, 3) write a first draft with the necessary components for a specific genre.

**Related Stages Assessment Activities:**

Stage Seven: *Making Sentences: Building Sentences, Writing Sentences*

*Making Stories*

- *Building Sentences, Writing Sentences* and *Making Stories* are accessible by many input devices, such as touchscreen, mouse dwell, alternative keyboard and switch. The text-to-speech capability gives the learner an opportunity to 'play back' written work.

**STANDARD 3:** Students write and speak using conventional grammar, usage, sentence structure, punctuation, capitalization, and spelling.

- (K) spell simple words;
- (K) apply letter/sound relationships as emergent writers;
- (K) copy the 26 letters of the alphabet.

**Related Stages Assessment Activities:**

Stage Four: *Reading Readiness: Letter ID, Letter Sounds*

Stage Seven: *Making Words: Copy Words*

- Stage Four *Letter ID* asks the learner to identify upper-case and lower-case letters. *Letter Sounds* asks the learner to distinguish similar-sounding letters.
- *Copy Words* allows the instructor to design activities that read the learner a letter to copy. The learner can then enter a response using an appropriate device and/or onscreen keyboard.

- (1) know and use correct spelling, punctuation, capitalization, grammar, and word usage to complete a variety of writing tasks;
- (1) spell high frequency words correctly;
- (1) punctuate endings of sentences;
- (1) capitalize sentence beginnings and proper nouns.
- (2, 3) know and use standard, age-appropriate spelling, grammar, word usage (for example, basic subject-verb agreement, complete simple sentences, appropriate verb tense, regular plurals).
- (4) know and use correct subject/verb agreement;
- (4) know and use correct capitalization, punctuation, and abbreviations;
- (4) spell frequently used words correctly using phonics rules and exceptions.

**Related Stages Assessment Activities:**

*Stage Seven: Making Sentences: Building Sentences*

*Making Words: Copy Words*

*Making Sentences: Writing Sentences, Spelling and Grammar*

- *Building Sentences* provides the learner with a word wall (three grade levels) in order to demonstrate knowledge of word usage and grammar with the aid of text-to-speech.
- *Copy Words* and *Writing Sentences* allow the instructor to design activities that read the learner a word, prompt or sentence without showing text on the screen. The learner can then enter a response. *Spelling and Grammar* is a collection of different activities including: Spelling, Homonyms, Capitalization, Noun-Verb Agreement, Pronoun Use, Word Order, and a Custom option. Lists of words/sentences may be saved for future sessions.

**STANDARD 4:** Students apply thinking skills to their reading, writing, speaking, listening, and viewing.

- (4) use listening skills to understand directions.

**Related Stages Assessment Activities:**

*Stage Five: All 'Explore' Activities*

- The learner attends to verbal and written instructions in order to learn how to solve problems or explore new vocabulary.

**STANDARD 5:** Students read to locate, select, and make use of relevant information from a variety of media, reference, and technological sources.

- (K) create a message by drawing, telling, and/or emergent writing.

**Related Stages Assessment Activities:**

*Stage Five: Math: Charts and Graphs*

*Stage Seven: Making Sentences: Building Sentences, Writing Sentences*

- The *Charts and Graphs* activity allows the learner to demonstrate understanding of graphical representation of information.
- *Building Sentences* gives the learner an opportunity to demonstrate knowledge of sentence structure without requiring typing skills. The activity is a collection of three levels of word walls with text-to-speech capability. *Writing Sentences* is another unstructured activity. The instructor can provide instructions or prompts for each sentence.

**STANDARD 6:** Students read and recognize literature as a record of human experience.

**(K)** tell a simple story with a beginning, middle, and end.

<b><i>Related Stages Assessment Activities:</i></b>
<i>Stage Seven: Making Stories</i>
<ul style="list-style-type: none"><li>The learner independently selects a picture as a writing prompt in the <i>Making Stories</i> activity, or can import a photograph in order to write about a personal experience.</li></ul>



**(1, 2, 3)** identify a regular beat and similarities of sound in words in responding to rhythm and rhyme in poetry.

<b><i>Related Stages Assessment Activities:</i></b>
<i>Stage Two: Nouns, Verbs, Attributes</i>
<i>Stage Five: Reading: Sounds</i>
<ul style="list-style-type: none"><li>Stage Two exposes the learner to language using short rhyming passages about familiar things such as animals and foods.</li><li>Stage Five <i>Sounds</i> presents the learner with rhyming sentence pairs and simple animations, then asks the learner to identify rhyming pairs from a word wall.</li></ul>

## Mathematics Grades K-4

### Standards and Suggested Grade Level Expectations (Grade Levels in Bold)

**STANDARD 1:** Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.

*1.1 Demonstrating meanings for whole numbers, commonly-used fractions and decimals (for example,  $\frac{1}{3}$ ,  $\frac{3}{4}$ , 0.5, 0.75), and representing equivalent forms of the same number through the use of physical models, drawings, calculators, and computers.*

(K) using objects and pictures, represent whole numbers from 0 to 50 in a variety of ways

**Related Stages Assessment Activities:**

Stage Four: Math Readiness: Counting

- Counting includes an accessible number line and pictures as virtual manipulatives. The number of objects ranges from 1 to 10.

(K) using concrete materials, demonstrate the meaning of wholes and parts (*for example, halves*)

(1) using concrete materials, demonstrate the meanings of halves, thirds, and fourths of sets and wholes

(2) using concrete materials, demonstrate the meanings of fractions, including halves, thirds, fourths, eighths, and tenths of sets and wholes

(2) using concrete materials or pictures, add and subtract halves, thirds, and fourths (Standard 6.2)

**Related Stages Assessment Activities:**

Stage Five: Math: Fraction ID, Fraction Application

- Stage Five *Fraction ID* asks the learner to select the fraction that illustrates the ratio of selected pictures on the screen in relation to the total number of objects on the screen. The multiple choice questions ask the learner to distinguish fractions with like and unlike denominators. *Fraction Application* asks the learner to identify the correct number of sections of a whole object to represent a fraction or a fractional solution to a word problem.

(K) name pennies, nickels, dimes, quarters, and dollars

(1) demonstrate the value of nickels, dimes, quarters, and dollars in terms of pennies (*for example, 25 pennies = 1 quarter*)

(2) demonstrate equivalencies of coins (*for example, 5 nickels = 1 quarter*)

(2) combine coins up to \$1.00 (*for example, 20¢ = 2 dimes = 1 dime + 2 nickels = 4 nickels*)

(2) find the total value of coins not to exceed \$1.00 (Standard 6.2)

**Related Stages Assessment Activities:**

Stage Six: Assess: Money Names, Counting Money, Money Equivalents

- Stage Six *Money* activities relate money amounts to situations of daily living. Coins up to 25¢ and bills up to \$20 are included.

*1.2 Reading and writing whole numbers and knowing place-value concepts and numeration through their relationships to counting, ordering, and grouping.*

- (K) and write numerals from 0 to 10 in meaningful contexts
- (1) read and write numerals from 0 to 100 in meaningful contexts

*1.3 Using numbers to count, to measure, to label, and to indicate location.*

- (K) count from 1 to 50
- (K) use one-to-one correspondence to count and compare sets of objects containing 0 to 10 members
- (1) using objects, demonstrate the meanings of equal, less than, and greater than with the whole numbers 0 to 100 (Standard 1.1)

**Related Stages Assessment Activities:**

*Stage Four: Math Readiness: Number ID, Counting*

*Stage Five: Problem Solving: Number Guess*

- Stage Four *Number ID* includes numbers from 0 to 10 in the context of a telephone keypad and an elevator. The *Counting* activity includes simple animations of familiar objects to count.
- Stage Five *Number Guess* asks the learner to deduce a mystery number by entering guesses according to feedback about its relative value, such as “That number is too high.” The range of numbers may be set for varying levels of difficulty by the instructor.

**STANDARD 2:** Students use algebraic methods to explore, model and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.

*2.1 Reproducing, extending, creating, and describing patterns and sequences using a variety of materials (for example, beans, toothpicks, pattern blocks, calculators, unifix cubes, colored tiles).*

- (K) recognize, construct, and extend patterns in a variety of motions, colors, designs, sounds, rhythms, music, positions, sizes, or quantities
- (1) create and extend patterns using concrete materials (for example, uses pattern blocks to create a pattern and has another student extend the pattern)

**Related Stages Assessment Activities:**

*Stage Four: Math Readiness: Explore Patterns, Continue/Fill-In Patterns, Create Patterns*

- Stage Four *Patterns* activities introduce the learner to patterns using shapes, color, and sound, have them continue patterns, and allow them to generate their own patterns.

*2.2 Describing patterns and other relationships using tables, graphs, and open sentences.*

- (K) sort, classify, describe, and order collections of objects in a variety of ways (for example, sorts buttons into two groups and explains why he/she sorted them this way)

**Related Stages Assessment Activities:**

*Stage Two: Verbs: Animals, Toys, Vehicles*

*Stage Three: Category Identification: Animals, Clothing, Vehicles*

- Stage Two verb activities and Stage Three category activities include familiar objects and provide different levels of graphic representation (photo/video, drawing, symbol).



**STANDARD 3:** Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning and processes used in solving these problems.

*3.1 Constructing, reading, and interpreting displays of data including tables, charts, pictographs, and bar graphs.*

- (1) display and explain data from a bar graph or tallies

*3.2 Interpreting data using the concepts of largest, smallest, most often, and middle.*

- (K) use "more" and "fewer" or "most," "same," and "fewest" to describe sets of manipulatives, pictures, or object graphs
- (1) using a bar graph, interpret data for "more" and "fewer" or "most," "same," and "fewest"

***Related Stages Assessment Activities:***

*Stage Four: Math Readiness: Estimating*

*Stage Five: Math: Charts and Graphs*

- Stage Four *Spatial Relationships* gives the learner an opportunity to demonstrate understanding of relative quantity vocabulary such as 'less/more' or 'big/medium/small.'
- The Stage Five *Charts and Graphs* activity includes bar graphs, line graphs, and pie charts. Familiar topics such as favorite snacks and animals help make the activities engaging for the learner.

**STANDARD 4:** Students use geometric concepts, properties, and relationships in problem solving situations and communicate the reasoning used in solving these problems.

*4.1 Recognizing shapes and their relationships (for example, symmetry and congruence) using a variety of materials (for example, pasta, boxes, pattern blocks).*

- (K) place manipulatives on pictures of shapes congruent to the manipulatives

*4.2 Identifying, describing, drawing, comparing, classifying, and building physical models of geometric figures.*

- (K) recognize and identify circles, triangles, squares, rectangles, ovals (ellipses), and diamonds (rhombuses)
- (1) describe the number of sides in triangles and in quadrilaterals such as squares and rectangles

***Related Stages Assessment Activities:***

*Stage Four: Assess: Shape ID*

*Stage Five: Problem Solving: Mystery Shape*

- The learner demonstrates recognition of triangles, rectangles, circles, squares, and ovals in photographs and drawings in scenes and in isolation (blank background).
- Stage Five *Mystery Shape* applies the learner's knowledge of shape attributes to a deductive reasoning game.

*4.3 Relating geometric ideas to measurement and number sense.*

- (2) measures the perimeter of triangles, squares, and rectangles using non-standard and standard units
- (3) measure the area of geometric figures using nonstandard units
- (2) estimate and measure the perimeter of a figure using non-standard and standard units (Standards 5.1 and 5.3)

***Related Stages Assessment Activities:***

*Stage Five: Math: Geometry*

- Stage Five *Geometry* asks the learner questions about perimeter, area, and volume with the help of on-screen diagrams showing non-conventional units such as footsteps, tiles, and cubes.

**STANDARD 5:** Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.

*5.1 Knowing, using, describing, and estimating measures of length, perimeter, capacity, weight, time, and temperature;*

*5.3 Demonstrating the process of measuring and explaining the concepts related to units of measurement.*

- (K) tell time to the nearest hour, using an analog and digital clock
- (1) tell time to the nearest hour and half-hour, using an analog and digital clock
- (2) tell time to the nearest fifteen minutes, using an analog and digital clock
- (3) tell time to the nearest five minutes, using an analog and digital clock
- (4) tell time to the nearest minute, using an analog and digital clock

***Related Stages Assessment Activities:***

*Stage Six: Assess: Telling Time*

- Both analog and digital clocks are included in this activity. Realistic scenarios help the learner connect daily activities with the concept of time.

**STANDARD 6:** Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

***ADDITION AND SUBTRACTION (Whole Numbers)***

*6.1 Demonstrating conceptual meanings for the four basic arithmetic operations of addition, subtraction, [multiplication, and division];*

- (1) link the operations of addition and subtraction, and equality with mathematical terms (for example, add, subtract and equal) and mathematical symbols (for example, +, -, =) (Standard 6.1)

*6.3 Demonstrating understanding of and proficiency with basic addition, subtraction, [multiplication, and division] facts without the use of a calculator; and*

- (1) demonstrate understanding of basic addition sums to 20 and subtraction differences of 10
- (2) demonstrate understanding of basic addition and subtraction facts
- (2) demonstrate automatic recall of basic addition and subtraction facts

*6.4 Constructing, using, and explaining procedures to compute and estimate with whole numbers.*

- (1) demonstrate the operations of addition and subtraction of whole numbers with concrete materials
- (1) link the operations of addition and subtraction, and equality with mathematical terms (for example, add, subtract and equal) and mathematical symbols (for example, +, -, =)
- (1) using paper-and-pencil, demonstrate simple single-digit addition and subtraction
- (2) using paper-and-pencil, demonstrate addition of two-digit whole numbers with and without regrouping
- (2) using paper-and-pencil, demonstrate subtraction of two-digit whole numbers without regrouping
- (3) using paper-and-pencil, demonstrate the four basic operations of whole numbers including
  - a) addition and subtraction of four digits
  - b) multiplication of two digits by one digit, regrouping included
  - c) division of two digits by a one-digit divisor obtaining one-digit quotients

***Related Stages Assessment Activities:***

*Stage Five: Math: Math Facts (+, -), Word Problems (+, -)*

- These activities give the learner an opportunity to demonstrate mastery of addition and subtraction with and without the aid of diagrams on the screen, with and without regrouping.

**MULTIPLICATION AND DIVISION (Whole Numbers)**

*6.1 Demonstrating conceptual meanings for the four basic arithmetic operations of [addition, subtraction,] multiplication, and division;*

- (2) using concrete materials or pictures, demonstrate division of whole numbers without remainders as partitioning of sets
- (2) using concrete materials or pictures, demonstrate multiplication of whole numbers as repeated addition

*6.3 Demonstrating understanding of and proficiency with basic [addition, subtraction,] multiplication, and division facts without the use of a calculator; and*

- (3) demonstrate understanding of basic multiplication and division facts of 1's, 2's, 3's, 5's, and 10's
- (3) demonstrate automatic recall of basic multiplication facts of 1's, 2's, 3's, 5's, and 10's
- (4) demonstrate understanding of basic multiplication and division facts through 100
- (4) demonstrate automatic recall of basic multiplication and division facts through 100

*6.4 Constructing, using, and explaining procedures to compute and estimate with whole numbers.*

- (1) demonstrate the operations of addition and subtraction of whole numbers with concrete materials
- (1) link the operations of addition and subtraction, and equality with mathematical terms (for example, add, subtract and equal) and mathematical symbols (for example, +, -, =)
- (1) using paper-and-pencil, demonstrate simple single-digit addition and subtraction
- (2) using paper-and-pencil, demonstrate addition of two-digit whole numbers with and without regrouping
- (2) using paper-and-pencil, demonstrate subtraction of two-digit whole numbers without regrouping
- (3) using paper-and-pencil, demonstrate the four basic operations of whole numbers including
  - a) addition and subtraction of four digits
  - b) multiplication of two digits by one digit, regrouping included
  - c) division of two digits by a one-digit divisor obtaining one-digit quotients

***Related Stages Assessment Activities:***

*Stage Five: Math: Math Facts ( $\times$ ,  $\div$ ), Word Problems ( $\times$ ,  $\div$ )*

- *Math Facts* includes multiplication of two-single-digit numbers and division of single- and double-digit numbers without remainders.
- *Word Problems* gives the learner an opportunity to demonstrate mastery of multiplication and division with and without diagrams on the screen illustrating repeated addition or partitioning of sets.